Comparisons of Job Characteristics

Focus Occupation: Geoscientists, Except Hydrologists and Geographers (19-2042) Associated Occupation: Hydrologists (19-2043)

Compare Knowledge
Compare Skills
Compare Abilities
Compare Detailed Work Activities
Compare Tools and Technologies

<<	Focus occupation element is much lower
<	Focus occupation element is lower
0	Focus occupation element is at a similar level
>	Focus occupation element is at a higher level
>>	Focus occupation element is at a much higher level

Knowledge

Similarity of Focus Occupation to Associated Occupation: 90

Focus Occupation: Geoscientists, Except Hydrologists and Geographers (19-2042)

Associated Occupation: Hydrologists (19-2043)

Associated Occupation's Key Knowledge Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating		Evaluation of Focus Occupation	
Mathematics	9.2	17.7	16.0	<	Expanded education and/or training may be required	
Engineering and Technology	5.7	17.4	17.8	0	Current knowledge level may be sufficient	
Geography	3.9	16.7	17.4	0	Current knowledge level may be sufficient	
Physics	4.3	15.7	14.4	0	Current knowledge level may be sufficient	
Chemistry	4.8	15.6	10.3	<<	Extensive education and/or training may be required	
Biology	3.7	13.6	4.7	<<	Extensive education and/or training may be required	
Design	5.2	12.6	8.7	<<	Extensive education and/or training may be required	
Law and Government	5.9	11.3	9.3	<	Expanded education and/or training may be required	

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Skills

Similarity of Focus Occupation to Associated Occupation: 90

Focus Occupation: Geoscientists, Except Hydrologists and Geographers (19-2042)

Associated Occupation: Hydro	logists (19-2	043)
	Average	Asso

Associated Occupation's Key Skills Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating	Evaluation of Focus Occupation	
Critical Thinking	10.8	14.5	11.5	A higher skill level may be required	
Science	4.5	13.0	15.1	Skill level is likely sufficient	
Mathematics	6.2	12.8	9.4	Extensive development of skills in this area may be required	

Programming	2.2	6.5	2.2	Extensive development of skills in this area may be required

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Abilities

Similarity of Focus Occupation to Associated Occupation: 97

Focus Occupation: Geoscientists, Except Hydrologists and Geographers (19-2042) Associated Occupation: Hydrologists (19-2043)

Associated Occupation's Key Abilities Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating		Evaluation of Focus Occupation	
Inductive Reasoning	10.2	14.6	13.2	<	Some improvement in abilities may be required	
Written Comprehension	11.0	14.6	16.0	0	Current ability level may be sufficient	
Written Expression	9.8	14.1	14.2	0	Current ability level may be sufficient	
Problem Sensitivity	11.1	13.9	12.8	0	Current ability level may be sufficient	
Mathematical Reasoning	6.3	13.8	10.3	<<	Extensive improvement in abilities may be required	
Deductive Reasoning	10.6	13.4	13.0	0	Current ability level may be sufficient	
Flexibility of Closure	7.8	12.0	10.1	<	Some improvement in abilities may be required	
Originality	7.6	11.5	9.0	<	Some improvement in abilities may be required	
Fluency of Ideas	7.6	11.3	9.8	<	Some improvement in abilities may be required	
Category Flexibility	9.0	11.2	12.3	0	Current ability level may be sufficient	
Number Facility	6.3	10.8	9.1	<	Some improvement in abilities may be required	

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Activities that Both Occupations Have in Common

Similarity of Focus
Occupation to Associated
Occupation: 95

Focus Occupation: Geoscientists, Except Hydrologists and Geographers (19-2042) Associated Occupation: Hydrologists (19-2043)

Work Activities	Exclusivity of Activity
Adhere to safety procedures	12
Advise clients or customers	19
Advise governmental or industrial personnel	28
Analyze ecosystem data	69
Analyze geological research data	87
Analyze scientific research data or investigative findings	27
Classify plants, animals, or other natural phenomena	69
Collect geographic or physical data	81

Apr	Collect scientific or technical data	30
Conduct field research or investigative studies 52 Conduct laboratory research or experiments 57 Confer with scientists 58 Develop mathematical simulation models 70 Develop mathematical simulation models 30 Develop practified or programs or projects 33 Develop policies, procedures, methods, or standards 21 Develop policies, procedures, methods, or standards 221 Develop scientific or mathematical hypotheses, theories, or laws 62 Develop scientific or mathematical hypotheses, theories, or laws 62 Develop scientific or mathematical hypotheses, theories, or laws 62 Develop scientific or mathematical hypotheses, theories, or laws 62 Develop scientific or mathematical hypotheses, theories, or laws 62 Direct and coordinate scientific research or investigative studies 27 Direct and coordinate scientific research or investigative studies 27 Explain complex mathematical information 30 Dream maps or charts 69 Explain complex mathematical information information 30 Forecast or predict phenomena based upon research data 71	Collect statistical data	47
Conduct laboratory research or experiments 57 Confer with research personnel 59 Confer with cestarch personnel 54 Corner with cestarch personnel 54 Corner with cestarch services 54 Develop mathematical simulation models 70 Develop por mathematical simulation models 30 Develop policies, procedures, methods, or standards 21 Develop policies, procedures, methods, or standards 21 Develop policies, procedures, methods, or standards 23 Develop policies procedures, methods, or standards 21 Develop policies procedures, methods, or standards 21 Develop policies procedures, methods, or standards 22 Develop policies procedures, methods, or standards 23 Develop policies procedures, methods, or standards 27 Develop policies procedures, methods, or standards 27 Direct implementation of new procedures, policies, or programs 60 Direct implementation of new procedures, policies, or programs 69 Explain complex mathematical information 30 Foreact an all photographs 69 <td< td=""><td>Communicate technical information</td><td>4</td></td<>	Communicate technical information	4
Confer with research personnel 50 Confer with scientists 54 Develop mathermatical simulation models 70 Develop parameter projects 30 Develop params or projects 31 Develop policies, procedures, methods, or standards 21 Develop policies, procedures, methods, or standards 62 Develop policies procedures, methods, or standards 62 Develop policies procedures, methods, or standards 62 Develop policies procedures, policies, or laws 62 Develop tables depicting data 33 Direct and coordinate scientific research or investigative studies 227 Draw maps or charts 69 Explain complex mathematical information 69 Explain complex mathematical information 71 Interpret aerial photographs 69 Make decisions 13 Make presentations 13 Perform statistical analysis in physical science or geological research 71 Plan scientific research or investigative studies 48 Prepare reports 81 Prepare technicical reports or related docume	Conduct field research or investigative studies	52
Confer with scientists 54 Develop mathematical simulation models 70 Develop prantarian databases 30 Develop plans for programs or projects 31 Develop policies, procedures, methods, or standards 21 Develop policies, procedures, methods, or standards 62 Develop policies, procedures, methods, or standards 33 Develop policies depicting data 33 Direct implementation of new procedures, policies, or programs 60 Direct implementation of new procedures, policies, or programs 69 Explain complex mathematical information 30 Forecast or predict phenomena based upon research data 71 Interpret aerial photographs 69 Make decisions 24 Make presentations 24 Make presentations 13 Perform statistical analysis in physical science or geological research 71 Plan scientific research or investigative studies 48 Prepare environmental impact or related environmental reports 81 Prepare technical reports or disearchations on physical science issues 78 Provide expert testimony o	Conduct laboratory research or experiments	57
Develop mathematical simulation models 30 Develop parametrian databases 30 Develop points or programs or projects 31 Develop policies, procedures, methods, or standards 21 Develop scientific or mathematical hypotheses, theories, or laws 62 Develop scientific or mathematical hypotheses, theories, or laws 62 Develop scientific or mathematical hypotheses, theories, or laws 62 Develop scientific or mathematical hypotheses, theories, or laws 62 Develop scientific or mathematical hypotheses, theories, or laws 62 Develop scientific or mathematical hypotheses, theories, or laws 62 Direct and coordinate scientific research or investigative studies 27 Direct implementation of new procedures, policies, or programs 60 Draw maps or charts 62 Draw maps or charts 63 Draw maps 63 Draw maps 63 Draw maps 64 Draw maps 65 Draw maps 67 Draw maps 68 Draw map	Confer with research personnel	50
Develop or maintain databases Develop plans for programs or projects 31 Develop policies, procedures, methods, or standards Develop policies procedures, methods, or standards Develop policies procedures, methods, or standards Direct and coordinate scientific research or investigative studies Direct and coordinate scientific research or investigative studies Direct implementation of new procedures, policies, or programs 60 Draw maps or charts 69 Explain complex mathematical information 70 Forecast or predict phenomena based upon research data 71 Interpret aerial photographs 69 Make decisions 70 Make presentations 71 Penderm statistical analysis in physical science or geological research 71 Plan scientific research or investigative studies 81 Prepare environmental impact or related environmental reports 81 Prepare renvironmental impact or related environmental reports 82 Prepare technical reports or elisted documentation 73 Present research papers or dissertations on physical science issues 74 Record test results, test procedures, or inspection data 84 Recommend further study or action based on research data 86 Record test results, test procedures, or inspection data 87 Resolve engineering or science problems 88 Use computers to enter, access or retrieve data 98 Use computers to enter, access or retrieve data 99 Use computers to enter, access or retrieve data 90 Use geographical information system (GPS) 10 Use mathematical or statistical methods to identify or analyze problems 10 Use mathematical or statistical methods 10 Use physical science research techniques 10 Use physical science research techniques 10 Use special full provinces in the chinques 10 Use	Confer with scientists	54
Develop plans for programs or projects Develop policies, procedures, methods, or standards Develop policies, procedures, policies, or programs Direct and coordinate scientific research or investigative studies Direct implementation of new procedures, policies, or programs Direct methods or charts Direct miplementation of new procedures, policies, or programs Direct modern procedures, programs Direct methods or charts Direct miplementation of new procedures, policies, or programs Direct and photographs Direct methods or product phenomena based upon research data Direct aerial photographs Direct aerial photographs Direct methods or product phenomena based upon research data Direct aerial photographs Direct aerial photogr	Develop mathematical simulation models	70
Develop policies, procedures, methods, or standards Develop scientific or mathematical hypotheses, theories, or laws Develop tables depicting data Direct and coordinate scientific research or investigative studies Direct and coordinate scientific research or investigative studies Diraw maps or charts Direct mplementation of new procedures, policies, or programs Diraw maps or charts Explain complex mathematical information Forecast or predict phenomena based upon research data Fin Interpret aerial photographs Make decisions Develop tables tresserated in programs Develop tables tresserated in programs Develop tables tresserated techniques Develop tables decisions Develop	Develop or maintain databases	30
Develop scientific or mathematical hypotheses, theories, or laws Develop tables depicting data Direct and coordinate scientific research or investigative studies Direct and coordinate scientific research or investigative studies Direct implementation of new procedures, policies, or programs 60 Draw maps or charts Explain complex mathematical information 63 Explain complex mathematical information 65 Explain complex mathematical information 67 Forecast or predict phenomena based upon research data 71 Interpret aerial photographs 68 Make decisions 72 Make presentations 73 Perform statistical analysis in physical science or geological research 74 Plan scientific research or investigative studies 75 Prepare environmental impact or related environmental reports 76 77 Prepare technical reports or related documentation 78 Prepare technical reports or related documentation 79 Present research papers or dissertations on physical science issues 78 Provide expert testimony on research results 66 Read maps Resommend further study or action based on research data Resommend further study or action based on research data Resommend further study or action based on research data Resommend further study or action based on research data Resommend further study or action based on research data Resolve engineering or science problems 46 Use building or land use regulations 55 Use geographic positioning system (GPS) 81 Use geographical information system (GIS) software 92 Use mathematical or statistical methods to identify or analyze problems 93 Use Rhowledge of investigation techniques 94 Use physical science research techniques 95 Use quantitative research methods 95 Use scientific research methodology 96 Use scientific research methodology 97 Use scientific research methodology 98 Use word processing or desktop publishing software 99 107 108 109 109 109 109 109 109 109	Develop plans for programs or projects	31
Develop tables depicting data Direct and coordinate scientific research or investigative studies Direct implementation of new procedures, policies, or programs Explain complex mathematical information Explain complex mathematical information Forecast or predict phenomena based upon research data Forecast or predict phenomena based upon research Forecast data analysis in physical science or geological research Forecast data analysis in physical science or geological research Forepare environmental impact or related environmental reports Forepare renvironmental impact or related environmental reports Forepare technical reports or related documentation Forepare technical reports or related documentation Forevide expert testimony on research gases Forevide expert testimony on research results Foreit research papers or dissertations on physical science issues Forevide expert testimony on research results Forecast research gases or dissertations on physical science issues Forecast research gases	Develop policies, procedures, methods, or standards	21
Direct and coordinate scientific research or investigative studies 27 Direct implementation of new procedures, policies, or programs 60 Draw maps or charts 69 Explain complex mathematical information 30 Forecast or predict phenomena based upon research data 71 Interpret aerial photographs 69 Make decisions 24 Make persentations 13 Perform statistical analysis in physical science or geological research 71 Plan scientific research or investigative studies 48 Prepare environmental impact or related environmental reports 81 Prepare technical reports or related documentation 22 Present research papers or dissertations on physical science issues 78 Provide expert testimony on research results 66 Read maps 42 Recommend further study or action based on research data 60 Record test results, test procedures, or inspection data 48 Resolve engineering or science problems 46 Use obenical testing or analysis procedures 54 Use operaphical information system (GPS) 81 <	Develop scientific or mathematical hypotheses, theories, or laws	62
Direct implementation of new procedures, policies, or programs 69 Explain complex mathematical information 30 Explain complex mathematical information 30 Forecast or predict phenomena based upon research data 71 Interpret aerial photographs 69 Make decisions 24 Make presentations 173 Perform statistical analysis in physical science or geological research 24 Make presentations 24 Prepare environmental impact or related environmental reports 24 Prepare reports 25 Frepare reports 26 Frepare technical reports or related documentation 22 Present research papers or dissertations on physical science issues 78 Frovide expert testimony on research results 66 Read maps 42 Recommend further study or action based on research data 60 Record test results, test procedures, or inspection data 86 Resolve engineering or science problems 46 Use building or land use regulations 65 Use computers to enter, access or retrieve data 72 Use geographic positioning system (GIS) software 72 Use knowledge of investigation techniques 72 Use knowledge of investigation techniques 73 Use measuring instruments to collect geological data 74 Use mathematical or statistical methods to identify or analyze problems 75 Use physical science research techniques 75 Use separatical or statistical methods to identify or analyze problems 75 Use physical science research methods 17 Use spreadsheet software 75 Use word processing or desktop publishing software 76 Use word processing or desktop publishing software 77 Explain the processing or desktop publishing software 77 Use word processing or desktop publishing software 77 Use word processing or desktop publishing software 77 Use word processing or desktop publishing software 77 Particular transfer 77 Particular transfer 78 Provide explain 17 Particular transfer 18 Provide explain 18 Use word processing or desktop publishing software 17	Develop tables depicting data	33
Draw maps or charts 69 Explain complex mathematical information 30 Forecast or predict phenomena based upon research data 71 Interpret aerial photographs 69 Make decisions 24 Make presentations 13 Perform statistical analysis in physical science or geological research 71 Plan scientific research or investigative studies 48 Prepare environmental impact or related environmental reports 81 Prepare reports 8 Prepare technical reports or related documentation 22 Present research papers or dissertations on physical science issues 78 Provide expert testimony on research results 68 Read maps 42 Record test results, test procedures, or inspection data 60 Record test results, test procedures, or inspection data 46 Use building or land use regulations 65 Use chemical testing or analysis procedures 54 Use geographic positioning system (GPS) 81 Use geographical information system (GPS) 81 Use mathematical or statistical methods to identify or analyze problems <td>Direct and coordinate scientific research or investigative studies</td> <td>27</td>	Direct and coordinate scientific research or investigative studies	27
Explain complex mathematical information 30 Forecast or predict phenomena based upon research data 71 Interpret aerial photographs 689 Make decisions 924 Make presentations 913 Perform statistical analysis in physical science or geological research 971 Plan scientific research or investigative studies 971 Plan scientific research or investigative studies 972 Prepare nervironmental impact or related environmental reports 973 Prepare reports 974 Prepare technical reports or related documentation 975 Prepare technical reports or related documentation 975 Present research papers or dissertations on physical science issues 976 Provide expert testimony on research results 975 Provide expert testimony on research results 975 Read maps 975 Read 975 Read maps 975 Read Ma	Direct implementation of new procedures, policies, or programs	60
Forecast or predict phenomena based upon research data 71 Interpret aerial photographs 69 Make decisions 71 Make presentations 71 Plan scientific research or investigative studies 71 Plan scientific research or investigative studies 71 Plan scientific research or investigative studies 72 Prepare environmental impact or related environmental reports 73 Prepare reports 74 Prepare technical reports or related documentation 75 Present research papers or dissertations on physical science issues 76 Provide expert testimony on research results 76 Read maps 77 Recommend further study or action based on research data 78 Resolve engineering or science problems 78 Resolve engineering or science problems 79 Use building or land use regulations 70 Use computers to enter, access or retrieve data 70 Use geographical information system (GPS) 70 Use geographical information system (GIS) software 71 Use informy or online Internet research techniques 72 Use mathematical or statistical methods to identify or analyze problems 73 Use relational database software 74 Use continue internet research techniques 75 Use physical science research techniques 76 Use physical science research techniques 77 Use physical science research techniques 78 Use physical science research techniques 79 Use physical science research techniques 70 Use physical science research techniques 70 Use physical science research techniques 71 Use physical science research techniques 72 Use physical science research techniques 73 Use geographical information system (GPS) 74 Use geographical science research techniques 75 Use physical science research techniques 76 Use physical science research techniques 77 Use physical science research techniques 78 Use scientific research methods 78 Use scientific research methodology 79 Use spreadsheet software 70 Use word processing or desktop publishing software	Draw maps or charts	69
Interpret aerial photographs Make decisions Alake decisions Alake presentations Perform statistical analysis in physical science or geological research Perform statistical analysis in physical science or geological research Plan scientific research or investigative studies Prepare environmental impact or related environmental reports Prepare reports Prepare reports Present research papers or dissertations on physical science issues Provide expert testimony on research results Read maps Accommend further study or action based on research data Record test results, test procedures, or inspection data Resolve engineering or science problems Use building or land use regulations Use chemical testing or analysis procedures Use computers to enter, access or retrieve data 3 Use geographica information system (GIS) software Use library or online Internet research techniques Use mathematical or statistical methods to identify or analyze problems Use physical science research techniques Use physical science research techniques Use physical science research methods Use physical science research methods Use postificar research methodogy Use spreadsheet software Use spreadsheet software Use spreadsheet software Use word processing or desktop publishing software 18 Use word processing or desktop publishing software 18 Use word processing or desktop publishing software	Explain complex mathematical information	30
Make decisions 24 Make presentations 13 Perform statistical analysis in physical science or geological research 71 Plan scare environmental impact or investigative studies 91 Prepare reports 91 Prepare reports 91 Prepare technical reports or related documentation 92 Present research papers or dissertations on physical science issues 93 Provide expert testimony on research results 96 Read maps 92 Recommend further study or action based on research data 96 Record testing or land use regulations 96 Use building or land use regulations 96 Use computers to ensist, access or terieve data 97 Use geographic positioning system (GPS) 97 Use knowledge of investigation techniques 97 Use mathematical or statistical methods to identify or analyze problems 97 Use measuring instruments to collect geological data 98 Use physical science research techniques 96 Use physical science research techniques 97 Use paraltitative research methodology 97 Use spreadsheet software 97 Use word processing or desktop publishing software 97 Use word processing or desktop publishi	Forecast or predict phenomena based upon research data	71
Make presentations Perform statistical analysis in physical science or geological research Plan scientific research or investigative studies Prepare environmental impact or related environmental reports Prepare reports Prepare reports Prepare technical reports or related documentation Prepare technical reports or related documentation Prepare technical reports or dissertations on physical science issues Present research papers or dissertations on physical science issues Provide expert testimony on research results Read maps Recommend further study or action based on research data Recommend further study or action based on research data Record test results, test procedures, or inspection data Resolve engineering or science problems Buse building or land use regulations Buse computers to enter, access or retrieve data Buse geographic positioning system (GPS) Buse geographic positioning system (GPS) Buse geographical information system (GPS) Buse knowledge of investigation techniques Buse mathematical or statistical methods to identify or analyze problems Buse mathematical or statistical methods to identify or analyze problems Buse physical science research techniques Buse physical science research techniques Buse physical science research methodology Buse scientific research methodology Buse spreadsheet software Buse word processing or desktop publishing software	Interpret aerial photographs	69
Perform statistical analysis in physical science or geological research Plan scientific research or investigative studies Prepare environmental impact or related environmental reports Prepare reports Prepare technical reports or related documentation Present research papers or dissertations on physical science issues Provide expert testimony on research results Read maps Recommend further study or action based on research data Record test results, test procedures, or inspection data Resolve engineering or science problems Use building or land use regulations Use computers to enter, access or retrieve data Use geographic positioning system (GPS) Use knowledge of investigation techniques Use library or online Internet research techniques Use mathematical or statistical methods to identify or analyze problems Use mathematical or statistical methods to identify or analyze problems Use physical science research techniques Use paraltitative research methodolog Use scientific research methodology Use spreadsheet software Use sword processing or desktop publishing software	Make decisions	24
Plan scientific research or investigative studies Prepare environmental impact or related environmental reports Repare reports Prepare technical reports or related documentation Prepare technical reports or dissertations on physical science issues Provide expert testimony on research results Read maps Recommend further study or action based on research data Record test results, test procedures, or inspection data Resolve engineering or science problems Use building or land use regulations Use computers to enter, access or retrieve data Use geographic positioning system (GPS) Use knowledge of investigation techniques Use knowledge of investigation techniques Use mathematical or statistical methods to identify or analyze problems Use measuring instruments to collect geological data Use geographic science research techniques Use measuring instruments to collect geological data Use geographic research methodology Use relational database software Use spreadsheet software 18 Use spreadsheet software 18 Use spreadsheet software 18 Use spreadsheet software 18 Use word processing or desktop publishing software 17 17	Make presentations	13
Prepare environmental impact or related environmental reports 8 Prepare reports 8 Prepare reports 9 Prepare technical reports or related documentation 9 Present research papers or dissertations on physical science issues 9 Provide expert testimony on research results 1 Read maps 1 Recommend further study or action based on research data 1 Recommend further study or action based on research data 1 Record test results, test procedures, or inspection data 1 Resolve engineering or science problems 1 48 1 Resolve engineering or science problems 1 49 1 Use chemical testing or analysis procedures 1 54 1 Use computers to enter, access or retrieve data 1 Use geographic positioning system (GPS) 1 Use geographical information system (GIS) software 1 Use knowledge of investigation techniques 1 Use mathematical or statistical methods to identify or analyze problems 1 Use measuring instruments to collect geological data 1 Use geographical science research techniques 1 Use measuring instruments to collect geological data 2 Use physical science research methodos 3 Use perlational database software 3 Use relational database software 4 2 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	Perform statistical analysis in physical science or geological research	71
Prepare reports 8 Prepare technical reports or related documentation 22 Present research papers or dissertations on physical science issues 78 Provide expert testimony on research results 66 Read maps 42 Recommend further study or action based on research data 60 Record test results, test procedures, or inspection data 8 Resolve engineering or science problems 46 Use building or land use regulations 65 Use chemical testing or analysis procedures 54 Use computers to enter, access or retrieve data 3 Use geographic positioning system (GPS) 81 Use geographical information system (GIS) software 72 Use knowledge of investigation techniques 161 Use mathematical or statistical methods to identify or analyze problems 163 Use measuring instruments to collect geological data 88 Use physical science research techniques 663 Use quantitative research methodos 75 Use relational database software 75 Use spreadsheet software 75 U	Plan scientific research or investigative studies	48
Prepare technical reports or related documentation 22 Present research papers or dissertations on physical science issues 78 Provide expert testimony on research results 66 Read maps 42 Recommend further study or action based on research data 60 Record test results, test procedures, or inspection data 48 Resolve engineering or science problems 46 Use building or land use regulations 65 Use chemical testing or analysis procedures 54 Use computers to enter, access or retrieve data 3 Use geographic positioning system (GPS) 81 Use geographical information system (GIS) software 72 Use knowledge of investigation techniques 72 Use Ibrary or online Internet research techniques 73 Use measuring instruments to collect geological data 89 Use physical science research techniques 63 Use relational database software 72 Use scientific research methodology 72 Use spreadsheet software 73 Use spreadsheet software 74 Use spreadsheet software 74 Use spreadsheet software 75 Use spreadshee	Prepare environmental impact or related environmental reports	81
Present research papers or dissertations on physical science issues Provide expert testimony on research results Read maps Recommend further study or action based on research data Recommend further study or action based on research data Record test results, test procedures, or inspection data Resolve engineering or science problems Use building or land use regulations Use chemical testing or analysis procedures Use computers to enter, access or retrieve data Use geographic positioning system (GPS) Use geographical information system (GPS) Use knowledge of investigation techniques Use library or online Internet research techniques Use mathematical or statistical methods to identify or analyze problems Use physical science research techniques Use quantitative research methods Use quantitative research methods Use relational database software Use scientific research methodology Use spreadsheet software	Prepare reports	8
Provide expert testimony on research results Read maps Recommend further study or action based on research data Record test results, test procedures, or inspection data Resolve engineering or science problems Use building or land use regulations Use chemical testing or analysis procedures Use computers to enter, access or retrieve data Use geographic positioning system (GPS) Use knowledge of investigation techniques Use mathematical or statistical methods to identify or analyze problems Use measuring instruments to collect geological data Use physical science research techniques Use quantitative research methods Use relational database software Use spreadsheet software Use spreadsheet software Use syreadsheet software Use syreadsheet software Use word processing or desktop publishing software 100 100 100 100 100 100 100 1	Prepare technical reports or related documentation	22
Read maps 42 Recommend further study or action based on research data 60 Record test results, test procedures, or inspection data 48 Resolve engineering or science problems 46 Use building or land use regulations 55 Use chemical testing or analysis procedures 55 Use computers to enter, access or retrieve data 53 Use gographic positioning system (GPS) 51 Use gographical information system (GIS) software 57 Use knowledge of investigation techniques 57 Use mathematical or statistical methods to identify or analyze problems 53 Use measuring instruments to collect geological data 59 Use physical science research techniques 50 Use quantitative research methods 50 Use relational database software 52 Use spreadsheet software 51 Use spreadsheet software 51 Use spreadsheet software 51 Use word processing or desktop publishing software 51 Use word processing or desktop publishing software 51	Present research papers or dissertations on physical science issues	78
Recommend further study or action based on research data Record test results, test procedures, or inspection data Resolve engineering or science problems Use building or land use regulations Use chemical testing or analysis procedures Use computers to enter, access or retrieve data Use gographic positioning system (GPS) Use gographical information system (GIS) software Use knowledge of investigation techniques Use library or online Internet research techniques Use mathematical or statistical methods to identify or analyze problems Use physical science research techniques Use quantitative research methods Use relational database software Use scientific research methodogy Use spreadsheet software Use word processing or desktop publishing software	Provide expert testimony on research results	66
Record test results, test procedures, or inspection data Resolve engineering or science problems Use building or land use regulations Use chemical testing or analysis procedures Use computers to enter, access or retrieve data Use geographic positioning system (GPS) Use knowledge of investigation techniques Use library or online Internet research techniques Use mathematical or statistical methods to identify or analyze problems Use physical science research techniques Use quantitative research methods Use relational database software Use scientific research methodology Use spreadsheet software Use word processing or desktop publishing software 103 148 148 148 148 148 148 148 14	Read maps	42
Resolve engineering or science problems Use building or land use regulations Use chemical testing or analysis procedures Use computers to enter, access or retrieve data Use geographic positioning system (GPS) Use knowledge of investigation techniques Use library or online Internet research techniques Use mathematical or statistical methods to identify or analyze problems Use physical science research techniques Use quantitative research methods Use relational database software Use scientific research methodology Use syreadsheet software Use word processing or desktop publishing software 16 17 18 46 46 46 46 46 46 46 46 46 4	Recommend further study or action based on research data	60
Use building or land use regulations Use chemical testing or analysis procedures Use computers to enter, access or retrieve data Use geographic positioning system (GPS) Use geographical information system (GIS) software Use knowledge of investigation techniques Use mathematical or statistical methods to identify or analyze problems Use measuring instruments to collect geological data Use physical science research techniques Use quantitative research methods Use relational database software Use scientific research methodology Use syreadsheet software Use word processing or desktop publishing software	Record test results, test procedures, or inspection data	48
Use chemical testing or analysis procedures Use computers to enter, access or retrieve data Use geographic positioning system (GPS) Use geographical information system (GIS) software Use knowledge of investigation techniques Use library or online Internet research techniques Use mathematical or statistical methods to identify or analyze problems Use measuring instruments to collect geological data Use physical science research techniques Use quantitative research methods Use relational database software Use scientific research methodology Use spreadsheet software Use word processing or desktop publishing software	Resolve engineering or science problems	46
Use computers to enter, access or retrieve data Use geographic positioning system (GPS) Use geographical information system (GIS) software Use knowledge of investigation techniques Use library or online Internet research techniques Use mathematical or statistical methods to identify or analyze problems Use measuring instruments to collect geological data Use physical science research techniques Use quantitative research methods Use relational database software Use scientific research methodology Use spreadsheet software Use word processing or desktop publishing software 172 381 381 381 381 381 381 381 38	Use building or land use regulations	65
Use geographic positioning system (GPS) Use geographical information system (GIS) software Use knowledge of investigation techniques Use library or online Internet research techniques Use mathematical or statistical methods to identify or analyze problems Use measuring instruments to collect geological data Use physical science research techniques Use quantitative research methods Use quantitative research methods Use relational database software Use scientific research methodology Use spreadsheet software Use word processing or desktop publishing software	Use chemical testing or analysis procedures	54
Use geographical information system (GIS) software Use knowledge of investigation techniques Use library or online Internet research techniques Use mathematical or statistical methods to identify or analyze problems Use measuring instruments to collect geological data Use physical science research techniques Use quantitative research methods Use relational database software Use scientific research methodology Use spreadsheet software Use word processing or desktop publishing software 72 73 74 75 76 77 77 78 78 79 70 70 71 71 71 72 72 72 71 72 73 74 75 75 76 77 77 78 78 78 78 78 78 78	Use computers to enter, access or retrieve data	3
Use knowledge of investigation techniques16Use library or online Internet research techniques21Use mathematical or statistical methods to identify or analyze problems30Use measuring instruments to collect geological data89Use physical science research techniques68Use quantitative research methods35Use relational database software26Use scientific research methodology21Use spreadsheet software18Use word processing or desktop publishing software17	Use geographic positioning system (GPS)	81
Use library or online Internet research techniques Use mathematical or statistical methods to identify or analyze problems Use measuring instruments to collect geological data Use physical science research techniques Use quantitative research methods Use relational database software Use scientific research methodology Use spreadsheet software Use word processing or desktop publishing software 21 22 23 24 25 26 27 27 28 29 20 21 21 21 21 22 23 24 25 26 26 27 28 29 20 20 21 21 21 22 23 24 25 26 26 27 28 29 20 20 21 21 21 22 23 24 25 26 26 27 28 29 20 20 21 21 21 22 23 24 25 26 26 27 28 29 20 20 21 21 21 21 22 23 24 25 26 26 27 28 28 29 20 20 20 21 21 21 21 22 23 24 25 26 26 27 28 28 29 20 20 20 20 20 20 20 20 20	Use geographical information system (GIS) software	72
Use mathematical or statistical methods to identify or analyze problems Use measuring instruments to collect geological data Use physical science research techniques Use quantitative research methods Use relational database software Use scientific research methodology Use spreadsheet software Use word processing or desktop publishing software 30 89 68 Comparison of techniques Comparison of tec	Use knowledge of investigation techniques	16
Use measuring instruments to collect geological data Use physical science research techniques Use quantitative research methods Use relational database software Use scientific research methodology Use spreadsheet software Use word processing or desktop publishing software 18	Use library or online Internet research techniques	21
Use physical science research techniques Use quantitative research methods Use relational database software Use scientific research methodology Use spreadsheet software Use word processing or desktop publishing software 68 25 26 27 28 29 21 21 21 21 22 23 24 25 26 27 27 28 29 20 20 21 21 21 22 23 24 25 26 27 27 28 29 20 20 21 21 21 21 22 23 24 25 26 27 28 29 20 20 20 21 21 21 21 21 21 22 23 24 25 26 27 27 28 28 28 29 20 20 20 20 20 20 20 20 20	Use mathematical or statistical methods to identify or analyze problems	30
Use quantitative research methods Use relational database software Use scientific research methodology Use spreadsheet software Use word processing or desktop publishing software 35 26 21 18	Use measuring instruments to collect geological data	89
Use relational database software 26 Use scientific research methodology 21 Use spreadsheet software 18 Use word processing or desktop publishing software 17	Use physical science research techniques	68
Use scientific research methodology 21 Use spreadsheet software 18 Use word processing or desktop publishing software 17	Use quantitative research methods	35
Use spreadsheet software 18 Use word processing or desktop publishing software 17	Use relational database software	26
Use word processing or desktop publishing software 17	Use scientific research methodology	21
	Use spreadsheet software	18
Write research or project grant proposals 33	Use word processing or desktop publishing software	17
	Write research or project grant proposals	33

Not all positions in these occupations will necessarily perform all of the listed activities. The exclusivity rating is an indication of how unique the activity is amongst all occupations. The maximum rating is 100. High scores indicate that only a small number of occupations engage in that activity.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Tools and Technologies that Both Occupations Have in Common

Similarity of Focus
Occupation to Associated
Occupation: 85

Focus Occupation: Geoscientists, Except Hydrologists and Geographers (19-2042) Associated Occupation: Hydrologists (19-2043)

Tools and Technologies	Exclusivity
Audio and visual equipment	4
Business function specific software	1
Cameras	2
Commercial fishing equipment	47
Computer printers	2
Computers	1
Content authoring and editing software	1
Data management and query software	1
Drafting supplies	9
Electrochemical measuring instruments and accessories	9
Hydrological instruments	31
Indicating and recording instruments	2
Industry specific software	1
Information exchange software	1
Laboratory heating and drying equipment	13
Laboratory ovens and accessories	15
Laboratory sieves and sifting equipment and supplies	27
Land surveying instruments	19
Length and thickness and distance measuring instruments	2
Light and wave generating and measuring equipment	4
Liquid and solid and elemental analyzers	19
Measuring and layout tools	3
Network applications software	1
Radar and sonar systems and components	24
Rock and strata measuring equipment	47
Sampling equipment	12
Seismological instruments	56
Soil measuring equipment	20
Sound generating and measuring equipment	19
Spectroscopic equipment	10
Temperature and heat measuring instruments	6
Weight measuring instruments	7
Well measurement and logging equipment	80

Not all positions in these occupations will necessarily use all of the listed tools and technologies. The exclusivity rating is an indication of how unique the tool or technology is amongst all occupations. The maximum rating is 100. High scores indicate that only a small number of occupations use that tool or technology.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.